ABSTRACT OF THE DISCLOSURE

A method for detecting and diagnosing disease states in a body part is described. The method starts with a preparatory step of modeling the body part as a grid of many finite elements, then calculating the effect of the electrical property of each finite element at any one of a plurality of electrodes on the periphery of the body part as a function of the position of the finite element within the grid. This is termed the weight (influence) of the element. With this baseline information, electrical impedance measurements made at the plurality of electrodes on the periphery of the body part can be used in a diagnostic module to calculate a Weighted Element Value (WEVal) for each element. In a preferred embodiment of invention, the difference in WEVal magnitude between corresponding elements of homologous body parts serves as an indicator of the presence of disease.